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# GOLD AND PRICES

BY

W. J. ASHLEY

M.A., PH.D.

PROFESSOR OF COMMERCE IN THE UNIVERSITY OF BIRMINGHAM  
SOMETIME PROFESSOR IN HARVARD UNIVERSITY

LONGMANS, GREEN, AND CO.

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## P R E F A C E

THE articles now reprinted were originally written at the request of the Editor of the *Pall Mall Gazette*, and appeared in its issues for March 21, 22, 25, 26, 28 and 29, 1912. By the kind permission of that journal, they are here put together in a more convenient shape.

A preliminary popular survey of the subject had been previously taken by me in a series of articles in the *Evening News* in October, 1910. These were subsequently translated into German and Swedish ; and they were reprinted in pamphlet form in January of this year, by the *Evening News*, under the title "The Rise in Prices and the Cost of Living."

The extent of the rise of prices has recently been indicated by an interesting return issued by the great Co-operative Wholesale Society. This shows, for certain years from 1898 onward, the cost to the Society, at wholesale prices, of what it calls "an average weekly family grocery order." The order consists of 1 lb. bacon, 2 lb. butter,  $\frac{1}{2}$  lb. cheese, 12 lb. flour,  $\frac{1}{2}$  lb. lard, 1 lb. meal, 4 lb. sugar,  $\frac{1}{2}$  lb. tea. The secretary has been good enough to furnish me with additional figures for 1895 and 1896 ; and the whole series is as follows :—

			<i>d.</i>				<i>d.</i>
1895	..	..	58'38		1908	..	70'21
1896	..	..	59'48		1910	..	72'38
1898	..	..	63'85		1911	..	71'00
1906	..	..	67'28				

The figures, it will be seen, for 1911 are 19 per cent. above those for 1896 ; and this tallies exactly with the estimate of the Board of Trade as to retail food prices in London.

But the main object of the present publication is not to adduce further evidence as to the fact or the amount of the rise of prices. Nor is it, really, even to prove that the underlying general cause is to be sought for in the vastly greater gold supply of recent years. Financiers and business men generally have now got to the point of allowing that "gold has had something to

do with it." What I want to direct attention to is the problem of the *modus operandi*; the exact way in which, under the present conditions of trade, the taking of gold out of the earth does, in fact, touch prices. I have here tried to give a version of the process, which has high authority in its support, in such a way as to make it seem reasonable to men of affairs. But I am very conscious that, to those personally engaged in monetary operations, it is apt to seem inadequate. May I not appeal to our leading bankers and financiers, if the explanation here given strikes them as incorrect or insufficient, and they, nevertheless, still think that somehow "gold is at the bottom of it," to give us their own alternative version of the sequence of cause and effect?

One line of argument, followed by economists of earlier generations from Ricardo onward, I have been unable to test for lack of evidence. These found the starting-point of the series of changes produced by an increased output of gold in the effect on prices in the country where the gold is mined. Cairnes in a well-known essay described the Australian discovery as "an occurrence by which a common labourer was enabled, by means of a simple process requiring for its performance little capital or skill, to obtain about a quarter of an ounce of gold—in value about £1 sterling—on an average in the day. . . . The immediate result was a general rise of money wages throughout the country." But the conditions of gold mining have so altered since Cairnes' time, that we can no longer picture things in quite this simple way. Prices (of food, at any rate) in South Africa do not seem to be now any higher than in the United States, if we may rely on the figures presented in the recent Report of the Union Commission on Trade and Industries (1912). By this time, however, we may suppose the effect of the new gold to have been pretty generally diffused over the commercial world. Accordingly I have endeavoured, with the kind assistance of Mr. Aiken of Johannesburg, to collect some evidence as to prices and cost of living during the last three decades. I have found apparently reliable figures for 1897, 1902 and 1907. But from these no clear conclusion can be drawn. Whatever rise of prices there may have been, it is not yet evident that such rise was distinctly earlier or distinctly greater than in other countries. But on the subject of South African prices, especially before 1897, we need further information.

EDGBASTON,

September 25, 1912.



# GOLD AND PRICES

## I

### INDEX NUMBERS AND WHOLESALE PRICES

I HAVE been asked to give an account of the present state of the problem of the rise of prices. It is a task which I enter upon with a good deal of trepidation. Economists have often been accused, and with only too much reason, of a certain doctrinaire dogmatism ; and I am afraid that I shall be expected to live up to the evil reputation of my profession. Yet there is no subject on which dogmatism is more out of place. It is one in which the growing complexity of modern life makes it increasingly difficult to bring the simple theories of a century ago to any satisfactory test ; one in which men of apparently equal ability have differed widely as to effects, even when they agreed as to causes ; and one on which the statistical evidence is far from complete. What I want to do, therefore, is not so much to expound my personal views as to put the reader in a position to arrive at a judgment of his own. There is, indeed, no reason why I should not at once state my provisional conclusions. These are : (1) that there has been a considerable upward movement of the general level of prices during the last fifteen years or so ; (2) that this general upward trend, as distinguished from fluctuations in particular commodities or particular years, has been the result of the vastly increased output of gold ; (3) that the economic results have been both good and bad ; and (4) that there is reason to believe that the most considerable part of the effect of the new gold supply has already been produced. But I assert none of these propositions dogmatically ; and I hope to be able to state the pertinent arguments in such a way that the reader may readily perceive just how much, or how little, I have to go upon.

First, then, let us be clear that what we are now concerned with is a general *trend* of prices—a movement, on the whole in one

direction, in the average *level*. That there is such a thing as a general trend of the price level it has taken us long to learn : it has been the slow result of the statistical inquiries of a century. What business men first notice—and usually they notice nothing more—is a marked change in the price of some particular commodity ; and they have commonly no hesitation in explaining it by some obvious change in demand or supply. Sometimes, when trade happens to be remarkably good or remarkably bad, business men realize that prices have a way of moving together ; that there are times of “ generally ” high or low prices. But what is much harder to grasp is that there are not only fluctuations year by year, but that these fluctuations take place around a certain level, and that the level may be stationary or ascending or descending for quite a long period.

That such is in fact the case we have been enabled to perceive by the introduction of what has been justly termed “ the powerful method of index numbers.” An index number is simpler than it sounds : it is nothing but a number which indicates, in an easily manageable form, the relation of one set of figures, taken as a whole, to some other set of figures which we make our standard. It may, perhaps, be most readily explained as a combined percentage. Take, for instance, the prices of a number of commodities in a certain year ; call each 100 ; express the prices of the same commodities in another year as percentages of the previous prices ; add up both sets ; and state the latter as a percentage of the former ; and we arrive at a proportion which the mind can readily grasp, instead of a bewildering and conflicting set of ups and downs. Such is the plan which has been followed by Jevons, Newmarch, and Mr. Sauerbeck in England, by Soetbeer in Germany, by Falkner and others in America ; and, in spite of not inconsiderable differences in the details of procedure, the method, in all competent hands, has shown conclusively that there is such a thing as a trend of prices, a relatively stationary or ascending or descending level around which annual prices do but oscillate.

An ounce of example is worth a pound of explanation ; and the process will be made perfectly clear by a chart showing what is, I think, on the whole, the most reliable set of index numbers—those for wholesale prices compiled during recent years by our Board of Trade. But, first, a few words more of explanation. One cannot attempt to collect all prices ; some selection is inevitable ; and most index numbers represent wholesale prices only. Then it is a question how many commodities shall be

represented. Evidently they should be leading commodities ; but experience shows that the calculation works out in substantially the same direction, whether twenty or fifty be taken. And, finally, all goods are by no means of the same practical importance. So that, while quite valuable conclusions may be derived from absolutely simple averages, where each commodity counts alike, a more accurate result may be arrived at by "weighting" the figures, according to some scale of relative importance. If there were in a room a number of men just five feet high, and a number just six feet high, one could not get an average height by adding five and six and dividing by two ; one would find out how many there were of each height, multiply the heights by the respective numbers of men, and divide by the total number. Similarly, it is easy to multiply the figure representing price by a number, or "weight," representing its relative importance (*e.g.* its relative place in national consumption), and divide by the sum of the weights.

After this introduction, let us concentrate our attention on the accompanying chart, showing the Board of Trade index numbers for wholesale commodities.

It takes the prices of 1900 as its standard, and expresses all the other annual totals as percentages of that year ; all the figures being carefully weighted in proportion to the place of the commodity in national consumption. Our chart begins with 1871 simply because the Board's calculations start with that year ; the reader need hardly be reminded that the prices of 1872-1874 were the top figures of a boom period. The calculation is based on the prices of forty-five articles, falling into the following four groups : I. Coal and Metals (Coal, Pig-iron, Copper, Zinc, Tin, Lead). II. Textile Raw Materials (Cotton, Wool—British and Foreign, Jute, Flax, Silk). III. Food and Drink (British Wheat, Barley, and Oats ; Foreign Wheat, Barley, and Oats ; Maize, Hops, Rice, Potatoes ; Beef, Mutton, Bacon ; Milk, Eggs ; Herrings ; Sugar, Tea, Coffee, Cocoa ; Rum, Wine, Tobacco). IV. Miscellaneous (Cotton Seed, Linseed, Olive Oil, Palm Oil, Paraffin, Petroleum ; Bricks, Hewn Fir ; Caoutchouc, Hides). On the same chart I have plotted a second line, showing the Board of Trade's index number for employment, or rather for the relative proportion of members of trade unions employed in the several years : the percentage employed in 1900 (which was actually 97.55) being taken as the standard and called 100. There has been a good deal of discussion as to the adequacy of this measurement of employment. It certainly cannot be accepted as

a quite accurate indication of the positive amount of employment in any particular year. But as an indication of the relative amount of employment as between one year and another, there can be little doubt of its value. And as the amount of employment is the best test of the state of trade, I propose to use this line as indicating, for comparison with the range of prices, the contemporary state of business.

A very cursory examination of the chart will suffice to make clear the nature of the problem we have to deal with. It shows that from 1873 to 1896 the average prices of raw materials and foodstuffs in England tended very markedly downward, and that



CHART I.—WHOLESALE PRICES AND AMOUNT OF EMPLOYMENT, 1871-1910 (1900 = 100).

since 1896 they have tended, equally clearly, though not so rapidly, upward. It shows that these generally downward and upward directions have been quite consistent with wide fluctuations around the descending and ascending levels. These minor fluctuations will be seen to be in the main identical in time with the trade or credit cycles (covering from seven to eleven years) of alternating prosperity and depression, as indicated by the line of employment. On the whole the price cycles have corresponded with the trade cycles. Prosperity, it is clear, is either the result, or the cause, or both, of high prices within each minor fluctuation or cycle; or else both are the effects of the same



cause. But, whatever the degree of prosperity and whatever the state of prices in particular years, the general trend of prices for the first twenty-one years was downward, and for the last fifteen years has been upward. That is what we have to explain.

## II

### RETAIL FOOD AND FINISHED GOODS

IN the preceding section I have explained the general nature of the problem, and given a chart showing the upward trend of prices since 1896. How we state the amount of the rise hardly matters so long as we accept the facts. Taking the prices of 1900 as 100, the Board of Trade's index number for 1896 is 82·2, and for 1911 109·3. This is a rise of some 24 per cent. Or we may take some other year or average of years for our starting-point. The price inquiries both of the American and Canadian Governments take the average for 1890-99 as their basis ; and, if we follow their example, the rise by 1910 from the average of 1890-99 works out at 13 per cent. That the Board of Trade method does not exaggerate the rise is shown by the fact that the well-known index numbers of Mr. Sauerbeck, based on a slightly different list of commodities, and with a different original starting-point, gives us a rise of 18 per cent. in 1910 as compared with 1890-99.

The statistics of other countries witness to the existence of a similar rise over the whole commercial world. Everywhere there has been an upward tendency, clearly distinguishable from fluctuations within the trade cycle. Mr. Hooker, in a valuable paper published in the December number of the Statistical Society's Journal, calculates, with the aid of the official and unofficial figures at present available, a rise by 1910, over the average of 1890-99, of 18 per cent. in France, 25 per cent. in Canada, 28 per cent. in Germany, and 32 per cent. in the United States. The figures are not all of them strictly comparable, and a difference of even 5 per cent. is too little to lay stress upon : it is the general concurrence of results that is significant, and the fact that in all these cases it is the year 1896 or 1897 that stands out as the turning-point. I find, also, that an unweighted average of the prices of the fifty-one principal commodities in Japan indicates a rise in that country by 1909 (the last year available) of 18 per cent. over the prices of 1900 ; while the figures of Australian trade show a rise there in the level of export prices between 1901 and 1909 of some 21 per cent.

A good deal will naturally be made in some quarters of the apparent greater rise in Germany and the United States as compared with England. It is easy to attribute the difference to Protection or Trusts. Whether such an attribution be just, and, if just, what conclusion it should suggest, are not questions that affect the present argument. Our concern is with England; and what appears to be the likely explanation of the rise in England we may fairly conclude to be the explanation *to that extent* for other countries.

To return, then, to the English figures. If the reader will refer back to the list of commodities comprised in the Board of Trade's index number, he will see that besides foodstuffs and certain beverages it consists only of raw materials and oils, and of a few commodities advanced one stage in manufacture and used as materials for further manufacture—viz. pig-iron, pig and sheet lead, hewn fir, and the chief material for building, namely, bricks. It may properly be asked what reason we have for believing that the rise in prices has penetrated to retail sales in the case of food, and, in the case of other products, that it has passed from materials to more finished goods.

As to food, we are on tolerably firm ground. The Board of Trade has prepared another series of index numbers, showing the relative price of retail food in London—which is, probably, sufficiently representative of the whole country—for every year since 1896. This is based on the retail figures for the following articles of working-class consumption: Bread, flour, beef, mutton, pork, bacon, butter, eggs, cheese, potatoes, currants, raisins, rice, tapioca, oatmeal, tea, cocoa, sugar, jam, treacle, and marmalade. The several commodities have been given a "weight" proportionate to their importance in the housekeeping of the people, as shown by a collection of "workmen's budgets." I have prepared a chart showing the movement of retail food prices thus ascertained, side by side with the movement of wholesale prices.

It will be seen, taking the same year, 1900, as our standard, that the rise in the four preceding years was less in the case of retail food, but that since 1900 it has been much the same, though steadier and more continuous. The index number for 1896 is 92, and for 1910 and 1911 109·9 and 109·3 respectively—an increase, that is to say, of some 19 per cent.

The question of the prices (whether wholesale or retail) of completely finished commodities, other than food, gives us more trouble. We have at present but scanty information for this country. For the United States abundant data have been

collected. A recent official investigation brings as many as 257 articles into the reckoning. Of these, 54 are classified as "raw commodities"; the other 203 as "manufactured commodities." And the figures show that the latter have risen since 1896 rather more than half as much as the former: not perhaps a surprising result, for material is not the only cost of production, and the enhancement of its price is constantly being counteracted by the cheapening of processes.

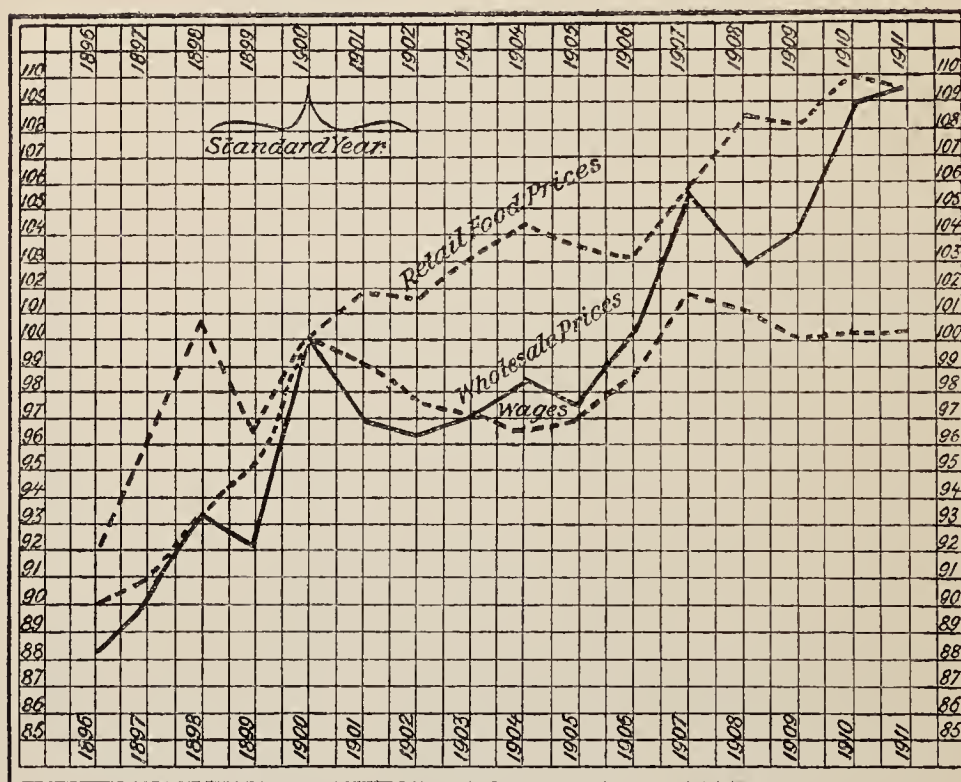


CHART II.—WHOLESALE PRICES, RETAIL FOOD PRICES AND WAGES, 1896-1911  
(1900 = 100).

In this country cotton cloth is included in the figures systematically collected by the "Economist," and it is evident from these, that, in spite of occasional divergencies, the prices of cotton cloth have, on the whole, kept pace with the prices alike of yarn and of raw cotton. These are, I think, the only figures readily available for completely finished goods. The "Economist" also enables us to take the step from pig-iron to iron bars and steel rails; and, in both cases, the price of the more finished stage has



been roughly parallel with that of the material. Beyond this it is impossible at present to go with any security. Manufacturers and merchants are loth to furnish information ; and the matter is complicated by three considerations. One, already referred to, is the tendency almost always present, in one industry or the other, towards a cheapening of processes. I am told, for instance, on excellent authority, that the requirements in the way of domestic hardware for an ordinary artisan's house can be purchased to-day for  $7\frac{1}{2}$  or 10 per cent. less than fifteen years ago. But in the interval the method of manufacture of most of the articles has been completely revolutionized. In many trades, again, there has been some change in the organization of business, especially in the direction of the elimination of the middleman. I learn that in one important branch of the hardware trade, though the actual consumer is paying about the same price as he did "twenty or thirty years ago," the manufacturer is getting rather a higher price, and the reason suggested is that the middleman has been abolished. And a third consideration is that, even in a period as short as fifteen years, the demand of the public has somewhat altered, and to that extent commodities have ceased to be comparable. One can hardly, for instance, compare the cost of a doctor's motor to-day with the cost of a doctor's brougham fifteen years ago. And, to give an instance of a very different kind, a comparison of the cost of house accommodation for the working classes fifteen years ago and at the present time may easily be misleading, because the things themselves are not quite the same. The cost of building an artisan's house has been decreased of late, because all the joinery work can now be bought ready cut ; it has been increased, on the other hand, not only by the higher price of bricks (due to heightened cost of coal and higher freights), but also because the building by-laws insist on thicker walls and proper damp courses, and because the standard of comfort now includes a bath and a superior cooking-grate.

It is notorious, of course, that there has been a good deal of complaint in several trades during the last decade that manufacturers were unable to get prices commensurate with the rise of materials. Within the last couple of years, however, such complaints have become less general ; and many of the trade reports for last year frankly recognized that selling prices had been "brought into harmony" with the increased costs of production. This has been notably the case in shipbuilding, in most branches of engineering, as well as in the copper and brass trades, the hardware trades, and the saddlery trade.

And these impressions are confirmed by the only statistical evidence available, which I cite for what it may be worth. In the Statistical Abstract for the United Kingdom there is a table giving the "average prices" of a certain number of exports of British manufacture, obtained by the very rough-and-ready method of dividing the declared values by the declared quantities. Recent changes in classification or in units of measurement diminish unfortunately very considerably the number of comparisons available; and whole classes of goods (cutlery and hardware, electrical goods, machinery, ships, and furniture) have, for other reasons, to be completely omitted. Moreover, among the commodities that remain, it is seldom one can be quite sure that the qualities of the goods comprised in the several classes have continued unchanged. Nevertheless, a glance at the figures, comparing the first five years (1896-1900) with the last (1906-1910), is sufficient, I think, to create a strong presumption that on the whole the prices of finished manufactures have gone up, though, perhaps, owing to improvements in production, not to the same extent as those of materials. Of the seventeen classes of woollen and worsted manufactures, twelve show increases, in five cases quite considerable, and only one shows a decrease. A marked increase is visible in linen and jute piece goods, as well as in felt and straw hats; and increases in less degree are shown by leather boots, sulphate of ammonia, firearms, and cordage, while the only decreases appear in bleaching materials, writing-paper, and cement.

### III

#### THE CAUSE

I COME now to the question of the cause of the phenomenon exhibited in the two previous articles. In the period of descending prices which came to an end in 1896, there were writers who attempted to explain the facts by the enormous improvement that had taken place in the production of commodities, by the opening-up of virgin soils, the development of transportation, and the cheapening of manufacture. Such, for instance, was the contention of the distinguished American author, David A. Wells. That this was not some part of the explanation I should not venture to assert; though the attachment which some people felt for it was clearly heightened by its apparent value as a weapon against the bi-metallists. Fortunately, the bi-metallic controversy need not now be renewed, and we can perhaps look at the question more dispassionately. To-day the opposite explanation is being put forward—viz., that the movement of general prices—this time upward—is due to the pressure of consumption upon production. And again there is *prima facie* reason for treating the argument with respect. It may be that England will not again for some time, if ever, get wheat quite as cheaply as in the early nineties, when the American West had recently come under cultivation and was still sparsely populated. It may be that the demands of the European continent and of America itself upon the American cotton crop will involve this country in a more frequently recurring shortage of raw cotton. But it must be observed that the rise of price is by no means limited to the cases readily explicable by supply and demand; it affects practically all raw products, and it affects, more or less, most manufactures. And what seems fatal to the supply theory as a complete explanation is that it fails to explain why the downward trend should be reversed just about 1896. It is true that the world is being more and more “industrialized”; but there is no ground for supposing that this industrialization suddenly became so much more rapid

in the middle of the nineties as to stem a mighty current like the long-prevailing decline of prices.

A reference to our first chart will dispose also of the view sometimes expressed that the upward movement is simply the result of prosperity. Brief cycles of trade, extending over seven to eleven years, have, as we have already seen, obviously a great deal to do with contemporary cycles of price. But this is not a case of cyclical fluctuations, but of a much more protracted lift upward of the price level, about which the short-period movements do but oscillate. Good trade cannot explain the movement since 1896 for the same reason that bad trade could not explain the movement before 1896. We did not suffer from continuously bad trade in the earlier period, and we have not enjoyed continuously good trade in the later.

In business circles it is sometimes asserted that the rise of prices has been the result of a rise of wages. If this were so, one could expect that the fall from 1873 to 1896 was the consequence of a fall of wages. But we know that during that period money wages went up some 12 per cent. in England, and that they also rose in the United States, Germany, and France. It requires but little knowledge of business conditions and of human nature to show us that wages are much more likely to lag behind than to precede prices; and this expectation has been confirmed by so much experience that it has become an economic commonplace. If the reader will refer back to Chart II. he will see on it a dotted line representing "the general course of wages in the United Kingdom," as calculated by the Board of Trade. It represents a simple general average derived from elaborately calculated trade averages; the trades represented being building, coal-mining, engineering, the textile trades, and agriculture. This indicates that the movement of wages has fallen behind that of retail food prices since 1900, and of wholesale prices since 1903. So far as our information goes, the course of events has been much the same in America. The fact is that an increase of wages is very rarely obtained until there has been an increase of the price of the product. But when obtained, it naturally tends to keep up prices, unless it leads to greater efficiency or better organization.

We are thus compelled to look round us, and ask what other big force can there have been which began to operate in the nineties, and has been working continuously ever since. Surely the only answer is the vast increase in the output of gold. That output began to increase from 1890 onward by a value of from



two to four million pounds sterling a year ; in 1897 the increase over the preceding year leapt up to seven millions, and in 1898 to ten millions more. It was checked by the South African War ; yet in 1901-2 it remained well above what it had been in 1897. In 1903 its upward march was resumed ; and in six years it reached its present figure of well over 90 millions annually, or between three and four times as much as the annual output during the forty years 1850-1890.

I suppose no one has any doubt that, in a simpler state of society, when bills of exchange were only beginning to be heard of, when there was no paper money, when banking and all its consequences had not yet made its appearance, a large and rapid increase in the stock of the standard metal would inevitably affect prices. And it is in fact the general opinion of historians and economists that the enormous rise in prices in the Europe of the sixteenth century was due to the advent of the precious metals from America : Adam Smith attributed to this cause a rise of 300 per cent. If this is so, there is surely a presumption that, so long as the world's system of exchange rests ultimately on a metallic basis, an increase in the metal used as the basis will still have *some* effect upon price, even though the operation of the cause may be hidden behind the complicated new mechanism of credit. We should expect the effect nowadays to be comparatively small ; and it may be recalled that Jevons (following, it is true, a method which somewhat minimized the amount of change) attributed to the gold discoveries of the middle of last century " a net or permanent rise " of only 18 per cent. " in the prices of about fifty of the chief materials and commodities." But that Californian and Australian gold had *some* effect I know no writer of weight who has been bold enough to deny. Even Professor Lexis, of Göttingen, whose general inclination is to lay more stress on the supply of commodities than on any other influence, agrees that " doubtless " some part of the rise after 1850 is to be attributed to the gold discoveries. In the half-century since Jevons wrote further changes have taken place in the mechanism of trade ; and the diminution of the effect of new gold supplies, which we might conjecture from general considerations and which Jevons's low figures seem to confirm, has not improbably continued. On the other hand, we must remember that the mass of the recent output is something quite unprecedented. There has been added to the world's stock of gold, during the last fifteen years, a quantity considerably greater than the total amount of coin and bullion previously existing

in Europe and America and their colonies ; a quantity more than half as much as the world's total previous stock in all forms.

The suspicion that we have now got our finger on the underlying cause is strengthened by three quite independent bits of statistics. Mr. Hooker has recently brought up to date a calculation made by Professor Cassel of Stockholm in 1904. Assuming that the increase in the world's stock of gold between 1850 and 1900—two dates when prices were at much the same level—was sufficient to do the increased gold work required by the currency system (whatever we may suppose that work to have been at different times during that half-century), we arrive at an estimate of the world's normal requirements. Applying this measure, we find that by 1910 the supply had risen some 9 per cent. above normal requirements. But, as it happens, 9 per cent. is also exactly the amount of the rise in prices between 1900 and 1910, as measured by the Board of Trade's index number.

We not only know what has been the increase in the world's stock of gold ; we know pretty accurately how much of it has come to England. Since 1858 all the gold bullion and specie brought into or taken out of this country—with the exception of the quite small sums people carry in their pockets—has been registered at the Custom House. Usually the imports exceed the exports ; and for the whole period 1858–1911 the average net excess of imports per annum was some £3,838,000. But if we reckon the average annual net import for the years of falling prices 1874–1896, we find it was only some £2,723,000 ; while the average annual net import for the years of rising prices 1897–1911 has been almost twice as much—viz., £5,110,000.

We know, also, what has happened to a part of the net imports. According to a recent estimate of the Deputy Master of the Mint, the amount of gold coin in the United Kingdom increased between 1895 and 1910 from some 92½ million pounds to some 113 million pounds. This is an increase of 22 per cent.—a figure which is curiously near the 24 per cent. rise of wholesale prices. The same estimate reckons that 62½ millions were “ in active circulation ” in 1895 and 69 millions in 1910—an increase of only 10 per cent. ; and I shall argue by and by that the quantity of sovereigns carried about by people is to-day mainly a *result* of a certain level of prices, and not the *cause*. During these fifteen years, branch banking has spread with extraordinary rapidity, and with it the use of cheques ; and we can easily suppose that the pocket gold needed for a given population and level of prices is becoming less. Meanwhile the sovereigns in the banks have risen from thirty

millions to forty-four. If to these sums we add thirty millions for the bullion in the Bank of England (which we know from other sources to have been the amount in 1896, and it is probably not less to-day), we arrive at an increase from sixty to seventy-four millions, or 23 per cent., in the gold reserves ; and I shall show reason for believing that these gold reserves do really determine in a sense the range of prices. At any rate, these three sets of statistics, with remarkable unanimity, point in one direction. Three such indications of "concomitant variation" of gold and prices may fairly be said to constitute an inductive argument of some weight.

## IV

### THE OPERATION OF THE NEW GOLD

SUPPOSE, then, we conclude that the upward movement of prices has probably been due, in some way or other, to the output of gold. It is natural to ask, next, how, precisely, this influence has been exerted. I must at once confess that it is difficult, with our present information, to give an answer which will command universal assent ; and we shall do well to remember that this is not the only field of inquiry in which we can point with tolerable confidence to an operative cause without being quite clear as to the nature of the operation.

Before the development of modern banking, when sales and purchases were commonly effected by means of an actual transfer of metallic currency, the relation between metallic currency and general prices could easily be pictured. Supposing no alteration to take place in the amount of goods to be dealt with, the natural conclusion was that average prices would depend on the quantity of metal coins in circulation. If, as Hume put it, everybody got up one fine morning with an extra sovereign in his pocket, or, as Mill put it, with an additional pound, shilling, and penny for every pound, shilling, and penny he had before, and the goods on sale remained the same, we see at once that prices would go up. It needed but little observation to add that, in speaking of the " quantity " of money, we must include its rapidity of circulation. If, for instance, all wages are paid at the same hour once a week, only a quarter as much money will be required, at the time of payment, as if they were paid once a month. And with this additional element of rapidity of circulation introduced, the so-called " quantity theory " was complete. But I cannot help thinking that, in reference to the problem of to-day, the term " quantity theory " simply cumbers the ground ; and to call upon every one to say whether or not he accepts it, and, if so, in what sense, is sheer waste of time.

The old way of looking at things assumed—what was then true—that the amount of the medium of exchange was independent of, and causally prior to, prices. But the chief medium of



exchange to-day in highly developed commercial countries is the cheque ; and it is a mere question of nomenclature whether we call it " currency." To be able to draw a cheque that will be honoured has just as much effect on prices as ability to produce sovereigns. Cheques are drawn upon " deposits "; but " deposits " nowadays are mainly advances by the banks themselves. As Mr. Hartley Withers has clearly shown in his " Meaning of Money," nearly three-quarters of the nominal deposits in London banks are in reality credits borrowed from the banks ; which thus themselves create the currency of the business world by determining the possible amount of cheques. But this is not an arbitrary action. When a customer comes to a bank for a loan, the decision of the bank is governed by two considerations : in the first place, by the security he can offer—and this, in the last resort, means the material tangible wealth he can fall back on—and, in the second place, by the bank's own resources. And, in the last resort, the resources of the banks are to be found in their gold reserves, either in the hands of the several banks or in those of the Bank of England. The situation is essentially the same in all other commercial countries. Between either of these two considerations—security and bank resources—and the amount of " deposits " there can be no fixed ratio. That with the same amount of material wealth to pledge, borrowers get sometimes more and sometimes less credit is very obvious. Similarly, there must be *some* gold reserve ; *ceteris paribus*, the bigger the reserve the bigger, we must conclude, the structure of credit raised upon it. But it is notorious that the reserve of the Bank of England (two-thirds of which is gold) varies in its proportion to the deposits as widely as from 35 to 55 per cent., and that the deposits of the other banks in the Bank of England, which serve as their reserve, stand in an equally variable relation to their liabilities. In the United States, it is true, there is a rule that banks must keep a certain fixed proportion of reserve to deposits ; but the extent to which this reserve shall consist of bullion and specie is not fixed, and varies, in fact, very considerably.

This being the situation, what happens when gold is taken out of the earth ? After it is refined, it makes its way to the commercial centres of the world, especially to London. Part of it—how large a part is very uncertain—is purchased for the industrial arts. The rest can in England be sent to the Mint and coined at the rate of £3 17s. 10½*d.* the ounce ; but in practice, for various reasons, it is sent to the Bank of England and sold for £3 17s. 9*d.*

the ounce. The seller receives the price in notes, or in a credit on the books of the bank ; but as, in the former case, he will naturally pay the notes into another bank and get a credit there, the result is the same in either case. The seller has now so much general purchasing power at his disposal ; and the use of such a power will tend to send up the prices of all the commodities which its wielder happens to desire. The effect may not be inconsiderable, if the demand comes at a time when trade has for some time been stagnant. But it is not likely to be large in an advanced commercial community. Even such gold supplies as have been recently witnessed are small compared with the contemporary production of other forms of material wealth ; and the cheques directly drawn upon them must almost disappear in the vast sea of the Clearing House. It should, however, be noted that the gold which ultimately reaches less highly-developed countries, where the effective currency is still metallic or is directly based on metal (like the new paper currency of the Argentine), may have there a greater effect on prices, and in this way influence considerably prices everywhere else. This is a possibility which needs investigating.

But let us return to England. In England and other countries with a similar banking system, the gold, when placed in the bank, will have an additional result beyond the direct effect of its purchasing power. So long as it can be retained, it becomes a part of the gold basis on which almost the whole machinery of interchange now rests. A simple examination of our present banking system leads us, therefore, to the conclusion—which one is comforted to find was also reached by such economists as Newmarch, Giffen, and Professor Marshall, not to mention many on the Continent—that the most direct and immediate way in which an influx of gold affects trade is by causing the banks to make advances on easier terms, so stimulating enterprise and causing an increase in the demand for commodities and services, and consequently a rise of prices. When the level of prices has in this way been raised, more sovereigns are likely to be wanted in small everyday transactions : customers of banks will ask for more gold over the counter ; this demand will be transmitted to the Bank of England ; and the Bank, if it has not already done so, will now send its gold bars to the Mint, and, receiving back sovereigns, will pay them out as required. An influx of gold bullion thus tends to send up prices ; and a rise of prices, in its turn, brings about an increase of the gold currency actually in circulation.

This view of the sequence of cause and effect would seem to be confirmed by what has actually been happening in this country. The Bank of England—the one constantly open market for gold in the world—has not been able to retain more than a small part of the gold that has passed through its vaults since the early nineties ; nevertheless, the bullion and specie in the Issue Department has stood since 1900 at some thirty-three millions sterling as compared with twenty millions in the decade before 1890. We have seen that the total amount of gold in all the English banks probably rose, between 1895 and 1910, from some sixty to some seventy-four millions. On this increased metallic basis has been erected a proportionately even larger edifice of credit. During the years over which Sir Robert Palgrave's figures extend—1894-1910—the “ deposits ” (two-thirds, perhaps, really advances) have mounted up from 676 to 957 millions, or some 40 per cent. These figures represent the amount of “ deposits ” at approximately the same day in the year. The increase in the amount of the cheques drawn upon them may be gathered from the fact that that part only which passed through the London Clearing House amounted both in 1910 and 1911 to over 14,600 millions sterling. During the period of declining prices which preceded 1896, the clearances, after falling off somewhat from the high-water mark of 6000 millions in 1873, had slowly climbed to about 7500 ; in the subsequent fifteen years they have almost doubled. In the view here being set forth, these cheques have been both the cause and effect of price. Because people could draw them, prices went up ; because prices had gone up, cheques had to be larger.

We can hardly doubt that what has happened in England has happened also in the United States. Between February, 1897, and February, 1912, the specie (probably almost all gold) in the New York Associated Banks increased from sixteen to seventy-eight millions sterling, and it has been calculated that by 1909 the cheque transactions of the whole country had already risen to some 73,000 millions pounds, from 21,000 millions in 1897.

In other countries, such as France and Russia, where cheques are little used, the course of events may have been somewhat different. Here the effect of the new gold has apparently been a great increase in the note circulation. But how richly all the banks of the world have been storing themselves with gold—out of all proportion to the increase of population—the following figures (in sterling) will sufficiently indicate. The



dates are only those for which I happen to have the figures at hand :—

Bank of France, Feb. 18, 1897	..	..	..	76,525,000
„ „ Feb. 15, 1912	..	..	..	127,904,000
Bank of Russia, Feb. 4, 1892	..	..	..	97,480,000
„ „ Feb. 5, 1912	..	..	..	126,189,000
Austro-Hungarian Bank, Feb. 8, 1898	..	..	..	30,348,000
„ „ „ Jan. 31, 1912	..	..	..	53,839,000
Imperial Bank of Germany, 1900	..	..	..	25,000,000
„ „ „ 1910-11	..	..	..	35,000,000
Bank of Spain, Feb. 13, 1897	..	..	..	8,528,000
„ „ Feb. 10, 1912	..	..	..	16,765,000
Bank of Japan, 1901	..	..	..	6,885,000
„ „ 1910	..	..	..	22,238,000
Netherlands Bank, Feb. 13, 1897	..	..	..	2,633,000
„ „ Feb. 10, 1912	..	..	..	12,109,000

To return, however, to England, whose monetary condition is more immediately under our eyes. The reluctance which is shown by some financiers to accept the view just set forth is due to its apparent irreconcilability with some of the actual facts as to the Bank of England rate of discount. Though the Bank Rate applies only to short term accommodation to a particular class of customers, it is commonly and justly regarded as indicating, in a general way, the terms on which advances generally are to be obtained. It is naturally pointed out that “cheap money” sometimes means, not that there is much to lend, but that there are few to borrow; and that, while high rates have often been contemporary with periods of prosperity, low rates often accompany periods of depression. We look back upon 1894-6 as a period of stagnation in trade; and yet great reserves were being piled up, and low rates were available for an unusually long period. All this is true; but it must be borne in mind that the operation of such a force as the supply of gold must be relative to the other conditions of the time. We must remember that the cyclical movement of trade and credit, the systole and diastole of economic life, is all the time going on, passing, in from seven to eleven years, through all the phases of its nature. The stimulus of a low rate of interest might be insufficient to call forth fresh enterprise when the trade movement was on the down grade, and quite enough to hasten the recovery when once the upward movement had recommenced. As to the case of 1894-6, there is good reason for believing that the revival did actually begin in 1895, though it was not till 1896 that it showed itself in prices. And as to high rates, several things must be noticed. First, the market rate does not always follow the bank rate immediately. Secondly,



what may be a crushing rate in dull times may be a positively encouraging one in times of general activity. Thirdly, the quantity of credit available and made use of at the several rates is more important for the present argument than the rates themselves ; and on this head there is no accessible information. And, finally, whatever effect a low rate may have in encouraging trade and raising prices, this very effect will cause a greater demand for loans and send up the rate ; and so *da capo*. The effect of fresh supplies of gold is to be conceived of, not as a constantly low rate of interest, but as a succession of fillips given to enterprise by rates which are *relatively* low, and supplies of credit which are *relatively* large.

## V

### SOCIAL EFFECTS

READERS who have followed the previous arguments will now, perhaps, be ready to allow that the theory which finds gold, somehow or other, at the bottom of the price movement since 1896, has a high degree of probability. The objections recently raised by the well-known French writer, M. Yves Guyot, spring, as it seems to me, from an inability to realize the distinction between a prolonged trend of the level of prices and the comparatively short trade-cycles of which that trend is made up. The contention of Professor Stephen Bauer, of Basel, that if gold were the cause, the rise in price would be universal and uniform, whereas it has been most evident in the case of materials and foods, is only valid against a very old-fashioned "quantity" theory. If the new gold got at the same time, and in some equable fashion, into the hands of everybody, we might expect a uniform result. But operating as I have supposed it to do, the effect will naturally spread from one class of commodities to another as the waves of demand spread, to which the gold, directly or indirectly, gives rise.

We may now well ask what are likely to be the social effects of an elevation of prices due to the cause assigned. Will it be for the advantage or disadvantage of the world? This is a subject on which there has been much diversity of opinion among economists. McCulloch, Cairnes, Jevons, and Walker—Cairnes and Jevons after a very elaborate discussion of the case of the new gold sixty years ago—held that the benefits of a progressive depreciation of money preponderate over the ill-effects. On the other hand, the once famous French writer, Michel Chevalier, in a little book which Cobden took the trouble to translate in 1859, depicted in vivid terms "the sufferings and difficulties" which the discoveries were bound to cost the world. More recently Professor Marshall has argued that, on the whole, declining prices are better for society than rising; while Sir Robert Giffen, though thinking that defect and excess in the gold supply were alike hurtful, came to the conclusion that, as between the two, excess, if not overwhelming, was to be preferred.

Instead of urging any opinion of my own, I will content myself with analyzing the situation. Rising prices or depreciating money—two terms for the same thing—are obviously advantageous to those who have fixed or relatively fixed payments to make and disadvantageous to those who have fixed or relatively fixed payments to receive. Borrowers will usually find it easier to make stipulated payments: they will be getting, for instance, a larger sum for the sale of the same quantity of goods. Lenders, on the contrary, will find that the stipulated interest no longer purchases the same commodities. As the borrowers may be said to constitute the enterprising and go-ahead part of the community, it has been argued, with no little force, that if they can thus obtain the aid of capital on easier terms, it is a good thing for society. As to those who live on *profits*—when the increased cost of material has been balanced by a similar rise in all other goods, manufacturers generally will be where they were—with bigger receipts and bigger expenditure: so long as the adjustment is still imperfect, sellers of materials will benefit at the expense of other members of the community. Recipients of *salaries*—as many of us know to our cost—will find their living expenses increasing out of proportion to their incomes, until they can manage to get their incomes increased. And the recipients of *wages* will be in a somewhat similar position; for the rates of wages naturally tend toward fixity.

The essential question is the amount of social friction involved in the necessary readjustment; and the matter is obviously of burning interest in relation to wage-earners. As Chevalier said, “for the working classes a rise of prices is a trying ordeal.” Since he wrote, however, the pressure has been eased somewhat, in two ways. In the first place, the operation of Wages Boards, governed, in principle or practice, by the rule that wages shall follow the prices of product, will often, as in recent years, lead to an increase of wages, at the same time that the cost of living is going up. This applies to the coal-mining industry and a large part of the iron industry. And in the second place, the substitution of piece wages for time wages over the greater part of the field of industry, has made it possible, when trade is brisk, for men to earn more per week, even before piece rates have been altered.

And this last remark suggests a consideration of wider scope. It was the opinion of Jevons that a general upward tendency of prices furnishes a continually-renewed stimulus to manufacturing and commercial enterprise—involving a greater demand for labour and an increase in its reward. The same conclusion would seem

to follow from the way we have supposed gold to affect prices. If so, the improvement of wages, when it comes—and it may need comparatively little pressure to bring it—may be well worth a little waiting for.

Statistical evidence on this point is hard to come by. The accompanying chart, prepared by the Local Government Board in 1909, places in juxtaposition lines showing two sets of index numbers: that for wholesale prices and that for general wages—the latter being the fruit of the prolonged investigations and exact statistical method of Professor Bowley, and differing slightly from the figures before referred to of the Board of Trade.

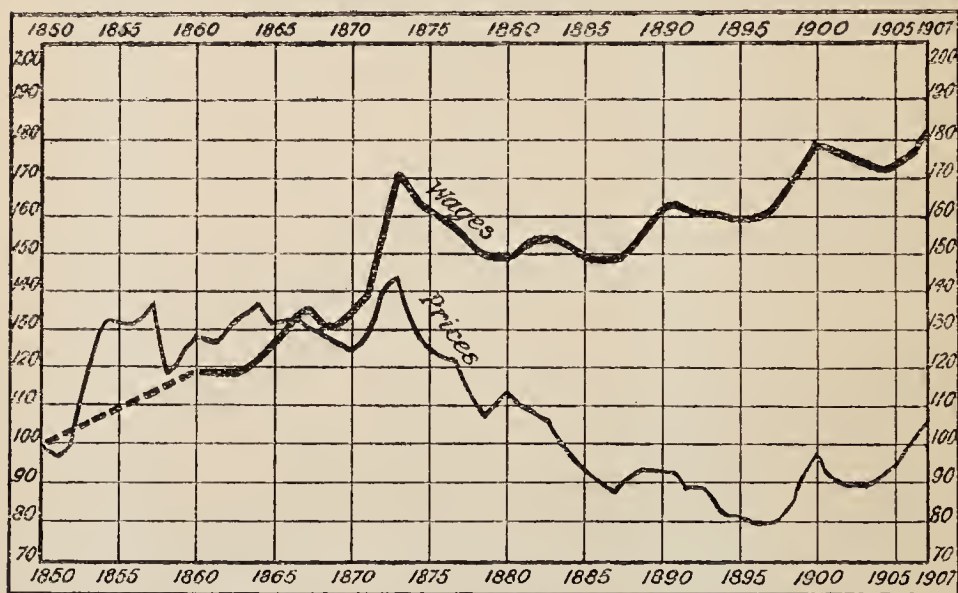


CHART III.—WAGES AND WHOLESALE PRICES, 1850-1907 (1850 = 100).

If this can be accepted as giving a sufficiently exact impression of the course of events, it will be seen that in the period before 1873 wages were for some time slow in following prices, but then shot up above them; that they fell, with falling prices, down to 1887, though not so much; that from 1887 to 1896 they first rose more than prices, and then fell less; and that from 1896 to 1907 they also rose very distinctly, though certainly to a somewhat smaller extent.

Following lines of thought such as these, I was inclined, when I began to look into the matter two years ago, to follow Jevons, and to lay too little stress on the friction involved in the adjustment of wages to prices. The events of last summer made



one reconsider this attitude. How far, in the last four or five years, and especially under the special circumstances of last summer's drought, wages may have been left behind by food prices, I would not undertake to say: the Board of Trade is engaged at present in a fresh and much-needed inquiry into the cost of living. Certainly the fact that there has recently been a striking disparity between income and food prices has been an important contributory cause of the present industrial unrest. We are bound to ask whether anything can be done to expedite the re-adjustment; or, as an alternative, whether the measure of value cannot itself be rendered more stable.

## VI

### FUTURE PROSPECTS

BEFORE attempting to deal with the questions asked in the concluding paragraph of the last section, we may well pause and ask ourselves how much of the recent rise in prices is to be assigned to the gold, and whether this particular influence is likely to continue. We have seen that the increase in prices in this country between 1896 and 1911 was some 24 per cent. for wholesale commodities and some 19 per cent. for retail food. But for part of this rise we must make the rising wave of the present trade cycle responsible. To eliminate the effect of the ordinary cyclical movement, Jevons adopted the plan of comparing the lowest points in successive price cycles. We may, perhaps, do the like and regard 1905 as the lowest point in the wholesale price cycle 1900-1907, and 1906 as the lowest point in the retail food price cycle 1901-1908. This gives us a rise in wholesale prices of some 10 per cent., and in retail food prices of some 12 per cent., probably attributable to the gold supply, and brought about by 1907-8. Food accounts for some seven-twelfths of working class expenditure ; moreover, we know that during part of the period covered by the last official inquiry into the total cost of living—*i.e.* from 1896 to 1903, food was a sufficiently accurate index of total expenditure. Making all allowance, then, for those manufactured goods which cost no more or even less than before, we are probably well within the mark in regarding a rise of 10 or 12 per cent. in the general cost of living as the effect up to the present of the new gold supplies.

Are these gold supplies going to continue ? We notice that while the figures of output rushed up from thirty millions of pounds to over sixty between 1892 and 1899, and then again, after the effects of the South African War were over, from sixty to over ninety between 1903 and 1909, the pace of increase has visibly slackened in the last three years, moving only from ninety-two millions in 1909 to ninety-three in 1910 and ninety-four in 1911. If the output is only maintained at figures like these, we may anticipate that its effect on price, though perhaps not yet

exhausted, will tend to diminish. The same increment to a continually swollen stock must, one would think, have a lessening effect. But it is by no means certain that the output will remain at its present figure. But for the contribution of the Transvaal, which produced some two-fifths of the whole, the quantity mined in 1911 would actually have been less than in 1910. The expansion of production since 1890 has been due mainly to the increase—caused, first, by the discovery of new deposits and, secondly, by the invention of the cyanide process—in the output from three countries ; not only from South Africa, but also from America and Australia. Of the new minor sources, the most considerable was Canada. But the production of America, having reached a value of more than nineteen million sterling in 1908, has since remained stationary. The gold raised in Western Australia has fallen steadily from a maximum of eight and three-quarter million pounds in 1903 to six and a quarter in 1910 ; and in the first ten months of 1911 it only produced some 1,136,000 fine ounces, as compared with 1,217,000 in the corresponding period of the previous year. There is some indication, also, that the decreasing quantity is being raised at a greater cost, for the average value of gold produced per man employed was £413 in 1909 and £386 in 1910. As to Canada, its gold production leapt from half a million pounds in 1895 to more than five and a half millions in 1900 ; since then it has declined to some two millions.

It would appear, therefore, that unless quite new goldfields are discovered, we have to look to the Transvaal to keep up the present vast supply. Its contribution to the world's total did actually increase from thirty-one million pounds in 1910 to thirty-four millions in 1911. Yet it is a striking fact that the yield of gold per ton crushed has steadily fallen from about 39s. 6d. in 1903 to less than 28s. in the first nine months of 1911. For some years it was found possible to reduce working costs to even a greater extent ; but this process seems to have reached its limit in 1908 ; and, since then, working profits are estimated to have fallen from 13'3s. to 9'6s. According to the " Economist's " expert, " last year's Rand dividends show that a big total production of gold can be obtained too dearly for the shareholders " ; and, if that be so, we may expect to see the output fall off.

And while the world's production seems not unlikely to slacken, there are going to be larger demands upon it for currency purposes. During the last few years very large quantities of gold have been drawn off to South America, especially to the

Argentine, in payment for products sold to the rest of the world. It was not till 1903 that there was a balance "in favour" of Argentina; but between that date and 1910 as much as thirty-seven million pounds' worth of gold has reached that country and been deposited in the Conversion Office to serve as the basis for paper currency. There was no falling off in consignments of gold to South America last year, and we may expect the demand to continue for some time to come. Much of the new gold has also of late gone to India, either directly or by way of Egypt; in some provinces it is apparently already entering to some extent into general circulation; and everywhere it seems to be replacing silver in the hoards of the rich. If the agitation in favour of opening the Indian Mints to the free coinage of gold should be successful, we can hardly doubt that it would cause a large quantity of gold to be withdrawn from the European and American markets. The whole world, in fact, is going over to a gold standard—even the "unchanging East." As soon as China has got over its present troubles we may expect it to follow the advice of Sir Robert Hart, and imitate the precedent of Japan.

If we take a broad view of the history of wholesale prices since the beginning of the nineteenth century—as shown by the researches both of Jevons and of Mr. Sauerbeck—we find that the general direction of the movement down to 1896 was very distinctly downward. The level of prices, in spite of large oscillations, fell down to 1849-51; it rose until 1857, and then remained at about the same level till about 1871. Again it rose to 1873; and from that point onward it fell again steadily and rapidly till 1896. The periods of upward trend have been but short in comparison with those in the opposite direction. The facts we have just learnt as to the present supply and probable future demand for gold embolden us to prophesy that the recent movement will be no exception to the historical rule. After the rise of prices from 1851 to 1857 the general level remained unchanged (though with wide cyclical fluctuations) down to 1871 in spite of the fact that the gold exports of Australia and California remained year after year of much the same amount. We may, therefore, venture to expect that the present upward movement will soon come to an end; that then prices will for a time remain on the same level; and that, sooner or later, the downward march of prices will again be resumed.





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